We claim:

1. A compound of the formula,

$$R^N\text{-}R^1X^1R^2X^2R^3X^3R^4X^4R^5X^5R^6X^6R^7X^7X^8R^9X^9R^{10}X^{10}R^{11}X^{11}\text{-}R^C$$

wherein,

R^N is a group of about 1 to 552 independently selected amino acids;

R^1 is a group of 3 independently selected amino acids;

X^1 is an amino acid with a charged or uncharged R group;

R^2 is a group of 7 independently selected amino acids;

X^2 is an amino acid with a charged R group;

R^3 is a group of 5 independently selected amino acids;

X^3 is an amino acid with an apolar R group;

R^4 is a group of 3 independently selected amino acids;

X^4 is an amino acid with charged R group;

R^5 is a single independently selected amino acid;

X^5 is an amino acid with apolar or uncharged R group;

R^6 is a group of 15 independently selected amino acids;

X^6 is an amino acid with a charged or uncharged R group;

R^7 is a group of 2 independently selected amino acids;

X^7 is an amino acid with a charged R group;

X^8 is an amino acid with a charged R group;

R^9 is a group of 2 independently selected amino acids;

X^9 is an amino acid with an apolar R group;

R^{10} is a group of 3 independently selected amino acids;

X^{10} is an amino acid with an uncharged R group;

R^{11} is a group of 2 independently selected amino acids;

X^{11} is an amino acid with an apolar R group; and

R^{C} is a group of about 1 to 100 independently selected amino acids.

2. A substantially purified nucleic acid molecule having a nucleotide sequence corresponding to or complementary to at least 20 nucleotides from a nucleotide sequence selected from the group consisting of (SEQ ID NO:1), (SEQ ID NO:3), (SEQ ID NO:5), (SEQ ID NO:7), (SEQ ID NO:9), (SEQ ID NO:19), (SEQ ID NO:21) and (SEQ ID NO:23).

3. The nucleic acid of claim 2 having a nucleotide sequence corresponding to or complementary to a nucleotide sequence that encodes a functionally active BAG family protein selected from the group consisting of (SEQ ID NO:2), (SEQ ID NO:4), (SEQ ID NO:6), (SEQ ID NO:8), (SEQ ID NO:10), (SEQ ID NO:20), (SEQ ID NO:22) and (SEQ ID NO:24).

4. The nucleic acid of claim 3 selected from the group consisting of (SEQ ID NO:1), (SEQ ID NO:3), (SEQ ID NO:5), (SEQ ID NO:7), (SEQ ID NO:9), (SEQ ID NO:19), (SEQ ID NO:21) and (SEQ ID NO:23).

5. The nucleic acid of claim 3 complementary to a nucleotide sequence that encodes a functionally active BAG protein selected from the group consisting of (SEQ ID NO:2), (SEQ ID NO:4), (SEQ ID NO:6), (SEQ ID NO:8), (SEQ ID NO:10), (SEQ ID NO:20), (SEQ ID NO:22) and (SEQ ID NO:24).

6. A substantially purified nucleic acid molecule having the nucleotide sequence of (SEQ ID NO:3).

7. A substantially purified nucleic acid molecule having the nucleotide sequence of (SEQ ID NO:5).

8. A substantially purified nucleic acid molecule having the nucleotide sequence of (SEQ ID NO:7).

9. A substantially purified nucleic acid molecule having the nucleotide sequence of (SEQ ID NO:9).

10. A substantially purified nucleic acid molecule having the nucleotide sequence of (SEQ ID NO:19).

11. A substantially purified nucleic acid molecule having the nucleotide sequence of (SEQ ID NO:21).

12. A substantially purified nucleic acid molecule having the nucleotide sequence of (SEQ ID NO:23).

13. A substantially purified BAG family protein encoded by the nucleic acid molecule of claim 1.

14. A substantially purified BAG family protein comprising of the amino acid sequence selected from the group consisting of (SEQ ID NO:2), (SEQ ID NO:4), (SEQ ID NO:6), (SEQ ID NO:8), (SEQ ID NO:10), (SEQ ID NO:20), (SEQ ID NO:22) and (SEQ ID NO:24) or a fragment, a derivative or a mimetic thereof.

15. A substantially purified protein corresponding to the amino acid sequence of 157 to 204 of (SEQ ID NO:2).

16. A substantially purified protein corresponding to the amino acid sequence of 272 to 319 of (SEQ ID NO:2).

17. A substantially purified protein corresponding to the amino acid sequence of 164 to 211 of (SEQ ID NO:4).

18. A substantially purified protein corresponding to the amino acid sequence of 418 to 510 of (SEQ ID NO:20).

19. A substantially purified protein corresponding to the amino acid sequence of 378 to 457 of (SEQ ID NO:22).

20. A substantially purified protein corresponding to the amino acid sequence of 6 to 97 of (SEQ ID NO:24).

21. A substantially purified protein corresponding to the amino acid sequence of 180 to 257 of (SEQ ID NO:24).

22. A substantially purified protein corresponding to the amino acid sequence of 272 to 349 of (SEQ ID NO:24).

23. A substantially purified protein corresponding to the amino acid sequence of 362 to 444 of (SEQ ID NO:24).

24. A pharmaceutical composition comprising a nucleic acid molecule of claim 1 useful for modulating tumor cell proliferation, cell migration and metastasis, and steroid hormone receptor function.

25. A method of modulating tumor cell proliferation, cell migration and metastasis, and steroid hormone receptor function by administering a nucleic acid molecule of claim 1.

26. A pharmaceutical composition comprising a substantially purified BAG family protein comprising of the amino acid sequence selected from the group consisting of (SEQ ID NO:2), (SEQ ID NO:4), (SEQ ID NO:6), (SEQ ID NO:8), (SEQ ID NO:10), (SEQ ID NO:20), (SEQ ID NO:22) and (SEQ ID NO:24), or a fragment, a derivative or a mimetic thereof, useful for modulating tumor cell proliferation, cell migration and metastasis, and steroid hormone receptor function.

27. A method of modulating tumor cell proliferation by administering a pharmaceutical composition of claim 26.

28. A method of modulating cell migration and metastasis by administering a pharmaceutical composition of claim 26.

29. A method of modulating steroid hormone receptor function by administering a pharmaceutical composition of claim 26.

30. A substantially purified antibody that specifically binds to a BAG family protein of claim 14.

31. The antibody of claim 30, wherein said antibody is a monoclonal antibody.

32. A method for detecting the presence of a BAG family protein in a sample, comprising the steps of:

a. obtaining the sample;

b. adding to said an antibody of claim 11 under suitable conditions for the binding of said antibody with the BAG family protein; and

c. detecting said bound BAG family protein.

33. A method for detecting the presence of a first nucleic acid molecule that encodes a BAG family protein in a sample, comprising the steps of:

a. obtaining the sample;

b. adding to said sample a second nucleic acid molecule capable of hybridizing with said first nucleic acid molecule under suitable conditions for the binding of said second nucleic acid molecule with said first nucleic acid molecule; and

c. detecting said hybridized first and second nucleic acid molecules.

34. A method of determining the risk of metastatic spread of cancer or prognosis of cancer patients by determining the level of expression of a BAG-family protein.